

Remarks

The Office Action mailed November 21, 2003 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 15-26 and 30-42 are now pending in this application, of which claims 26 and 42 have been amended. It is respectfully submitted that the pending claims define allowable subject matter.

Claim 42 has been amended to correct a typographical error.

The objection to claim 26 is respectfully traversed. Claim 26 has been amended as suggested in the Office Action, and Applicants accordingly request withdrawal of the objection.

The rejection of Claims 15-18, 23-26, and 30-42 under 35 U.S.C. § 102 as being anticipated by Eigenbrode et al. (U.S. Patent No. 4,252,397) is respectfully traversed.

Eigenbrode et al. describe an electrical connector including insulated flat cable (2) and a plurality of parallel electrical conductors (3) encased in a uniform tight fitting insulation. As described and illustrated by Eigenbrode et al., the conductors (3) are encapsulated in insulation (4) which "can be extruded or laminated into a unitary structure with the insulation." See Eigenbrode et al. col. 4, lines 17-24. A connector assembly (1) is attached to the cable, and includes an insulating foundation (13) and a cover or cap (20) attached to each other and interconnecting elements (5) arranged in a line array. Each of the elements (5) includes a plurality of insulation piercing elements. Bights (6) of the cable conductors (3) are metallurgically bonded to the elements (5). As described by Eigenbrode et al., each element (5) and its contacting bight (6) is "preferably bonded to each other" and "is permanently assembled and is substantially encapsulated within cap 20." See Eigenbrode et al. col. 6, lines 22-25. After bonding of the elements (5) and the bights (6) to one another, the cap (20) is "permanently"

attached to the foundation (13), such as with an ultrasonic bond. See Eigenbrode et al. col. 9, lines 54-61.

It is respectfully submitted that Eigenbrode et al. fail to disclose each of the structural and functional recitations of the present claims, and fails to teach or suggest any desirability of removably connecting different connectors with a separable ultrasonic weld. Nothing in Eigenbrode et al. describes or suggests that breaking a weld in a connector joined to a stick of connectors is desirable or advantageous. In fact, it is apparent that Eigenbrode et al. describes a unitary connector (1) having a plurality of interconnecting elements (5) in a unitary foundation (13) for connecting a plurality of conductors (3) of a single cable (2). The foundation (13) defines an edgecard receptacle (19) for interfacing the cable (2) to a printed circuit board. See Eigenbrode et al. Figures 3 and 19 and col. col. 6, line 65. The unitary edgecard connector of Eigenbrode et al. and the teaching of the Eigenbrode et al. reference is respectfully submitted to be incompatible with the claimed invention.

Claim 15 recites a connector device capable of being used with an electrical cabling, said device comprising a first connector having a housing and opposing sides, and a second connector having a housing and opposing sides, "at least one of said opposing sides of said first connector being removably connected to one of said sides of said second connector," "whereby said first connector is separable from said second connector as electrical cabling is spliced thereto."

The connector device of claim 15 is neither described nor suggested by Eigenbrode et al. Contrary to the assertion otherwise in the Office Action, Eigenbrode et al.'s cap (13) is not removably connected to the foundation (13) or separable from the foundation (13) as electrical cabling is spliced thereto. Rather, in Eigenbrode et al.'s connector, the conductors of the cable are permanently attached to the cap (20), and the cap (20) is then permanently attached to the foundation (13). Neither the foundation (13) nor the cap is separable into separate housing structures, and the electrical cabling is connected to the cap (20) before it is joined to the foundation (13).

Claim 15 is therefore submitted to be patentable over Eigenbrode et al.

Likewise, the detail recitations of Claims 16-18 and 23-25, when considered in combination with the recitations of claim 15, are submitted to be patentable over Eigenbrode et al.

Claim 26 recites a connector stick device comprising a plurality of connectors, each of said connectors having opposing sides, and "wherein at least one of said opposing sides of each said connector is removably connected to one of said opposing sides of an adjacent said connector by an ultrasonic weld, and further wherein each said connector is separable from said adjacent connector by breaking said ultrasonic weld."

Eigenbrode et al. does not describe a connector stick but rather an edgecard connector, and the cap (20) is not removably connected to the foundation (13) of the Eigenbrode et al. edgecard connector. Rather, Eigenbrode et al. describe that the cap (20) is permanently attached to the foundation (13) with an ultrasonic bond. Eigenbrode et al. clearly does not teach or suggest breaking the ultrasonic bond.

Claim 26 is therefore submitted to be patentable over Eigenbrode et al.

Claims 30-33 depend from claim 26, which is submitted to be patentable for the reasons set forth above. When the recitations of claims 30-33 are considered in combination with the recitations of claim 26, claims 30-33 are likewise submitted to be patentable over Eigenbrode et al.

Claim 34 recites a connector assembly for splicing cable with an automatic crimping tool, said connector assembly comprising "a plurality of nonconductive housings joined to one another to form a connector stick, each of said housings comprising at least one opening for passage of electrical cabling, wherein said plurality of joined nonconductive housings are separable from one another as the cable is spliced thereto."

Eigenbrode et al. do not describe or suggest nonconductive housings joined to one another in a connector stick which are separable from the connector stick as cabling is coupled to the connectors. Rather, Eigenbrode et al. describe a single, unitary edgecard connector in which multiple conductors (3) of a cable (2) are attached to the cap (20), and the cap (20) is permanently attached to the foundation (13) after the conductors (3) are bonded to the cap (20). The cap (20) is therefore not joined to the foundation (13) to form a connector stick of joined nonconductive housings as recited in claim 34, and the cap (20) and the foundation (13) are not separable from one another "as the cable is spliced thereto" as claim 34 recites.

Claim 34 is therefore submitted to be patentable over Eigenbrode et al., and when the recitations of claims 35-38 are considered in combination with the recitations of claim 34, claims 35-38 are likewise submitted to be patentable over Eigenbrode et al.

Claim 39 recites a method for splicing cable to a plurality of connectors, said method comprising "providing a plurality of individual connectors, each connector including a housing, at least one cable opening, and at least one crimping device proximate the opening," "joining the connectors to one another to form a connector stick for splicing operations," "inserting cable into the openings of each of the joined connectors," and "securing the cable to each of the connectors using the crimping device; wherein force generated in securing the cable to the respective connectors separates the respective connectors from the connector stick."

Eigenbrode et al. does not describe joined connectors forming a connector stick for splicing operations wherein the connectors are separated from forces generated in securing cable to the respective connectors, and Eigenbrode et al. therefore does not disclose the method of claim 39. Rather, Eigenbrode et al. describes attaching cable conductors to a cap (20), and subsequently permanently attaching the cap (20) to the foundation (13). The cap (20) and the foundation (13) are not joined until after the wires are coupled to the cap, and the cap and the foundation are not separable once they are joined.

Claim 39 is therefore submitted to be patentable over Eigenbrode et al, and when the recitation of claim 40 are considered in combination with the recitations of claim 39, claim 40 is likewise submitted to be patentable over Eigenbrode et al.

Claim 41 recites a method for splicing cable to a plurality of connectors, said method comprising "providing a plurality of individual connectors, each connector including a first portion and a second portion movable relative to one another, a cable opening in one of the first and second housing portions, and a crimping device in the other of the first and second housing portions," "bonding the connectors to one another to form a connector stick for splicing operations," "inserting cable into an opening of one of the joined connectors," and "breaking the bond between the one connector and one the connector stick while securing the cable to the one connector using the crimping device."

Eigenbrode et al. neither describe nor suggest the method of claim 41. Eigenbrode et al. describe a single edgecard connector and not a plurality of individual connectors bonded to one another to form a connector stick. Eigenbrode et al. describes permanently attaching cable conductors to a cap (20), and subsequently permanently attaching the cap (20) to the foundation (13). The cap (20) and the foundation (13) are not joined until after the wires are coupled to the cap, and the cap and the foundation are not separable once they are joined. Eigenbrode et al. nowhere describes breaking of the bond between the cap (20) and the foundation (13).

Claim 42 recites a stick of electrical connectors comprising "a plurality of electrical connectors disposed side-by-side, each of said connectors having a non-conductive housing, said connectors being joined together by respective ultrasonic welds between adjacent said housings, wherein said connectors are individually separable from the stick by breaking said ultrasonic welds."

For the reasons set forth above, it is submitted that Eigenbrode et al. is not suggestive of connectors joined with ultrasonic welds, wherein the connectors are individually separable by

breaking the welds. Eigenbrode et al. describes a single edgcard connector having a cap (20) that is permanently attached to a foundation (13).

Claim 42 is therefore submitted to be patentable over Eigenbrode et al.

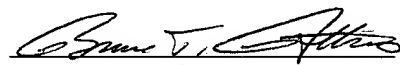
For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of claims 15-18, 23-26 and 30-42 be withdrawn.

The rejection of Claims 19-22 under 35 U.S.C. § 103 as being unpatentable over Eigenbrode et al. is respectfully traversed.

Claims 19-22 each depend from independent Claim 15, which for the reasons set forth above is submitted to be patentable over Eigenbrode et al. When the detail recitations of claims 19-22 are considered in combination with the recitations of claim 15, claims 19-22 are also submitted to be patentable over Eigenbrode et al.

In view of the foregoing amendment and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



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